**Confidential Claim Retracted** 

Authorized by:

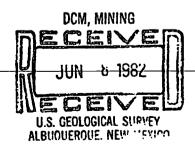
Date: 6/86/13

QUESTION #1

Please provide a timetable for reclamation with as much detail as possible.

# RESPONSE #1

Attached is an estimate of the schedule of reclamation of the Jackpile-Paguate Mine Site. This schedule is based on length of time from start of the reclamation program and may vary depending on modifications to the plan and methods used in the reclamation process.



# JACKPILE-PAGUATE MINE RECLAMATION SCHEDULE

BACKFILL PITS

PLACE OVERBURDEN COVER

PLACE TOPSOIL

REVEGETATION

MONITOR 'ENVIRONMENT'

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR
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64 de 18-18-18-18-18-18-18-18-18-18-18-18-18-1						
	3.00					
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\*In the event that reclamation objectives are attained prior to the end of this period, Anaconda may shorten this monitoring period accordingly.

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POL-EPA01-0004262

Please provide copies of the following reports:

- a. The hydrologic reports recently completed.
- b. The addendum to the subsidence report which was previously submitted.
- c. The radiological report recently completed.
- d. The geomorphologic report prepared by Dr. Stanley Schumm.
- e. The Morrison-Knudsen study on diverting surface water off of the waste pile terraces.

#### RESPONSE #6

- a, b, & c. These reports were sent to Dale Jones, Minerals Management Service, on 26 April 1982.
- d. Anaconda has not requested nor approved such a report by Dr. Stanley Schumm nor do we have any knowledge of such a report.
- e. Morrison-Knudsen did not conduct a study on diverting surface water off the waste pile terraces. However, this topic is discussed in Section 6.1.3.2 and Plates 6.1-B and 6.1-14 of our Reclamation Plan. The design and placement of facilities to divert surface waters from the terraces resulted from discussions with rock and soil mechanic people.

Will Anaconda give hiring preferences to members of the Pueblo of Laguna throughout the reclamation process?

# RESPONSE #17

Preferential hiring will be given to Laguna Indians at the Jackpile-Paguate Mine Reclamation project. This policy will be consistent with the qualifications of the applicants relative to the job, the labor agreement applicable at that time, and the methods used in completing the reclamation project.

Page 34 states that there are a number of examples which indicate that your revegetation techniques will retard erosion on steep slopes. Please provide a discussion of the location of these examples, and of their applicability to the Jackpile-Paguate Mine.

#### RESPONSE #18

Slope revegetation research projects have been conducted on small plots at the Jackpile-Paguate Mine. The test plots involve an area of approximately 3 acres on dump J and erosion control blankets on limited areas of dumps I, T, F, and G. The average slope angle for these sites is approximately 1.3:1.

The dump J slope revegetation project is basically a broadcast method of seed application, however, additional steps have been taken to assure seedling germination and subsequent plant survival. Seed was mixed with barley straw and blown over the crest of the dump onto the slope. The site was chained to incorporate the seed into the plant growth media. The soil was temporarily stabilized by the barley mulch which is held in place by tacking agents. The seeding rate was 30 lbs/acre. The success data of the 1978 J dump slope project is attached. The basal cover of the plot is 71.3% of the 1981 revegetation-control site average. The control sites are not on slope areas.

The erosion control blankets were placed on erosion prone slope areas on dumps I, T, F and G. The wood excelsior blankets are staked down and held by plastic netting. The blankets were unrolled over areas of the slopes which exhibited significant rills and gullies. These sites were seeded with 3 native grass species and one shrub species. Each blanket plot area of approximately 400 feet<sup>2</sup> received 10-13 lbs. of seed.

The average density for the 1979 blanket plots is  $67.5 \text{ plants/M}^2$ . The density is 83.5% of the average control site.

No irrigation was applied to either of the two treatments.

#### ATTACHMENT FOR RESPONSE #18

J-DUMP WEST SLOPE - EXPERIMENTAL AREA

מיזטמט זטמו	DALL	ICLILLIAN.	CITE YELV				
SQUARE METER PLOTS							
#1	#2	#3	#4	<b>#</b> 5	#6	TOTAL	AVERAGE
5	14	14	12	-	2	47	7.83
1	5	_	-	5	2	13	2.17
2	1		1	2	3	9_	1.50
1	-	-	1	-	1	3	0.50
_	1_	2	1	2	1	7	1.17
_	-	-	1	1	-	2	0.33
ria) –	1	39			<u> </u>	۷0	6.67
9	22	55	16	10	9	121	20.17
	#1 5 1 2 1 - aria) -	SQU #1 #2 5 14 1 5 2 1 1 - - 1 	SQUARE M #1 #2 #3  5 14 14  1 5 -  2 1 -  1 -  - 1 2   - 1 39	SQUARE METER P #1 #2 #3 #4  5 14 14 12  1 5  2 1 - 1  1 1  - 1 2 1  1  aria) - 1 39 -	SQUARE METER PLOTS #1 #2 #3 #4 #5  5 14 14 12 -  1 5 5  2 1 - 1 2  1 1 -  - 1 2 1 2  1 1  aria) - 1 39	SQUARE METER PLOTS #1 #2 #3 #4 #5 #6  5 14 14 12 - 2  1 5 5 2  2 1 - 1 2 3  1 1 - 1  - 1 2 1 2 1  1 1 - 1  aria) - 1 39	SQUARE METER PLOTS         #1       #2       #3       #4       #5       #6       TOTAL         5       14       14       12       -       2       47         1       5       -       -       5       2       13         2       1       -       1       2       3       9         1       -       -       1       -       1       3         -       1       2       1       2       1       7         -       -       -       1       1       -       2         aria)       -       1       39       -       -       -       40

Observed: Clover Species

Broom Snakeweed

Plants of all species have gone to seed.

# BASAL COVER (Measurements in 100ths of Feet)

Common Name	LINE INTERCEPTS						
Genus & Species	1	2	3	TOTAL	<b>AVERAGE</b>		
Four Wing Saltbush							
(Atriplex canescens)	10	36	32	78	26.00		
Indian Ricegrass							
(Oryzopsis hymenoides)	33		_	33	11.00		
Blue Grama							
(Bouteloua gracilis)	101	35	-	136	45.33		
Crested Wheatgrass							
(Agropyron cristatum)	66	-	34	100	33.33		
Alkali Sacaton							
(Sporoholus aeroides)	4	12	-	16	5.33		
Sand Dropseed							
(Sporobolus cryptandrus)	25	-	7	32	10.67		
TOTAL BASAL COVER	239	83	73	395	131.66		

<sup>30</sup> ft. x 100 = 3,000 3,000 x 3 = 9,000

 $395 \div 9000 = 4.39\%$ 

Basal cover 4.39%

Control Site Average 6.16%\*

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<sup>\*</sup>Analysis submitted in 1981 annual reclamation report.

What criteria did you use to choose the location for the structures to bring water off of the waste piles?

#### REPONSE #20

In order to evaluate the most feasible locations for rainfall runoff drainage structures, a review was conducted of the topographic features of the dumps and backfill areas.

The post-reclamation drainage patterns for surface water runoff and the ponding areas for each site were defined. In cases where the ponding area was in close proximity to a waste pile crest, a drainage structure was proposed for this location. The sites where the general drainage pattern is in the direction of the outer slopes, the drainage structures are to be located at critical points along the slope. Backfill and dumps will be contoured in a manner that the surface runoff will not accumulate along the crest and the direction of flow will be toward the collection inlet of the drop structure.

Candidate locations for drainage structures were also selected from field investigation. Drainage structures are proposed for waste pile areas that have experienced significant gully erosion that cannot effectively be controlled by berm systems on the top surface.

The drainage structure locations shown on plate 6.1-14 are indicated by our present plan. However, following final land form shaping, drop structures may be added, relocated or possibly deleted as indicated by the resulting as-built terrain to meet the objectives of this feature of the plan.

Page 44 states that broadcast seeding will be utilized on problem areas. Please explain what you mean by problem areas. Do these include all dump slopes?

#### RESPONSE #22

Broadcast seeding and hydromulching will be accomplished on areas that are inaccessible to conventional seed drills. Drilling of seed will be the primary method of planting. Although drilling is the superior method of seeding where site conditions permit, there will be some cases at the Jackpile-Paguate Mine where the only feasible application procedure is broadcasting.

Rocky sites comprised of large aggregate can damage and greatly reduce the efficiency of range land and cultipacker type drills. Exploration drill hole sites on Black Mesa are classic examples of rocky sites that could curtail efficient seed application by drilling.

All dump slopes at the Jackpile-Paguate Mine will be seeded. The proposed dump slope angles are about 2:1 to 3:1. Seed drills towed by track type equipment can be used on these slope geometrics. In areas where tractors cannot maneuver, safety will not be compromised, and these slopes will be seeded by broadcasting.

Page 26 states that the Jackpile sandstone exposed on the pit walls has been shown not to constitute a radiological hazard. Please provide a technical justification for this statement.

# RESPONSE #23

Anaconda commissioned Western Radiation, Inc. of Fort Collins, Colorado to study this topic and prepare a report of their findings. The report was submitted to Dale Jones, Minerals Management Service on 26 April 1982.

Anaconda previously made a commitment to backfilling the North Paguate Pit to floodplain level. Please provide your rationale for withdrawing this commitment.

#### RESPONSE #24

The commitment to which you refer is contained in condition #4 of Dale Jones' letter of 11 January 1978 to T. R. Beck, Anaconda, wherein Mr. Jones approved the PW-2-3 project.

A copy of the 1978 letter of approval and the map referred to in condition #4 is attached. This condition stipulates that Anaconda backfill the western 1200 feet (approximately) of the North Paguate Pit to an elevation of about 6045 feet.

At the time this condition was presented, there had been discussions of back-filling the North Paguate Pit for agricultural purposes. Since that time, it has been determined that the amount of land available for agricultural use in the vicinity of Paguate Village above the mine site exceeds the amount of land that could be successfully irrigated for crop production from surface waters of the Rio Paguate. Further, it is not advisable to use the reclaimed pit areas for agricultural crop production purposes. To backfill the subject portion of the pit is not cost effective considering the resulting benefits, if any. Accordingly, we request that we be released from this commitment in view of the low return on the cost that would be incurred in backfilling to the extent of the stated conditions. As Anaconda has proposed in the 16 March 1982 Reclamation Plan, the pit area will not present hazards to health and safety, and the terrain will allow revegetation similar to the rest of the mine site.

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# United States Department of the Interior



GEOLOGICAL SURVEY
Conservation Division
P. O. Box 26124
Albuquerque, New Mexico 87125

January 11, 1978

Capy for:

PDL

WEG 1

Mr. T. R. Beck, General Manager The Anaconda Company New Mexico Operations, Uranium Division P. O. Box 638 Grants, New Mexico 87020

Dear Mr. Beck:

The mining and reclamation plan for the PW2-PW3 Mine Project has been reviewed by the Pueblo of Laguna, Southern Pueblos Agency of the Bureau of Indian Affairs and U.S. Geological Survey. The Pueblo of Laguna and Southern Pueblos Agency have approved the plan as submitted. The Geological Survey has determined that the action does not constitute a major Federal action significantly affecting the quality of the human environment in the sense of NEPA, Section 102(2)(c) and is not highly controversial.

Accordingly, the PW2-PW3 Mine Project is hereby approved subject to the conditions listed below.

- 1. An adequate survey grid system will be established in the area indicated on the enclosed map to monitor for surface subsidence. A plan for this monitoring system will be submitted to the Area Mining Supervisor for approval prior to actual ore extraction. This grid system will be monitored quarterly and the results submitted to the Area Mining Supervisor as soon thereafter as possible.
- 2. The Anaconda Company will take adequate and appropriate measures to prevent accidents in the areas indicated on the enclosed map where adverse ground conditions could constitute a safety hazard.
- 3. Endangered species and archaeological clearances for the project will be obtained from the Fish and Wildlife Service and the Albuquerque office of the Bureau of Indian Affairs, respectively.
- 4. Upon termination of the PW2-PW3 Mine Project, the North Paguate Pit will be backfilled as indicated on the map submitted to this office January 10, 1978. This map has been included in the mining and reclamation plan for the PW2-PW3 Mine Project.

5. Any surface depressions resulting from subsidence of the PW2-PW3 Mine workings will be appropriately backfilled as long as The Anaconda Company is actively conducting mining operations within Pueblo of Laguna Uranium Lease Number 1.

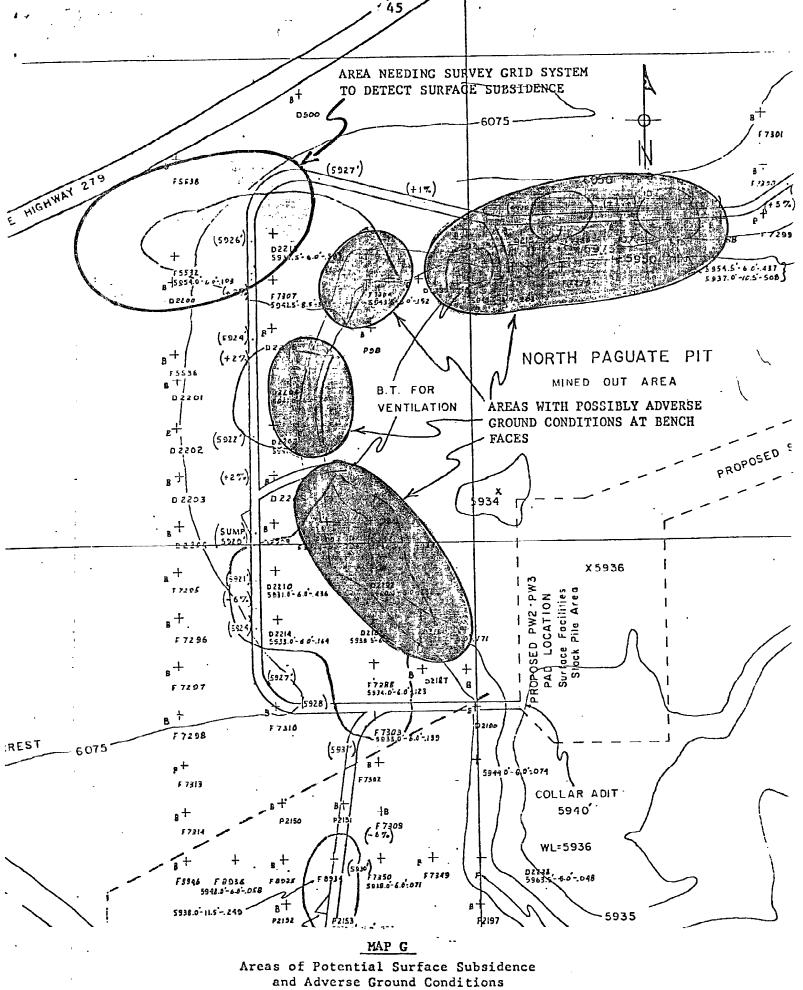
If you have any questions regarding this approval, please feel free to contact this office.

Sincerely yours,

DALE C. JONES

Mining Engineer
For Area Mining Supervisor

Enclosure



Scale: 1"=100' (The Anaco ida Company, 1976)

Plate 4.1-2 shows four topsoil stockpiles (TS-1,TS-2A, TS-2B, and TS-3) but Table 4.1-1 and page 13 show only two topsoil stockpiles. Please correct this error.

#### RESPONSE #27

Table 4.1-1 describes the acres of disturbance on natural ground at the Jackpile-Paguate Mine and was not intended to serve as an accounting of stockpiles. Top-soil stockpiles TS-1, TS-2A and B are all situated on natural ground. Topsoil stockpiles TS-2A and TS-2B are both represented on table 4.1-1 as TS-2. Topsoil stockpile TS-3 is not on natural ground but is located on top of South Dump and was not included in this chart as additional disturbed land because of its location.

Paragraph 2 on page 13 also states that the 32 acres of topsoil stockpiles are on natural ground. The acreage of TS-3 is not mentioned because it is not on natural ground and does not contribute additional area to the overall disturbance at the mine.

The topsoil stockpile locations are shown on Plate 4.1-2. Topsoil stockpiles TS-1 and TS-2 (a and b) consist of 32 acres. Stockpile TS-3, located on South Dump, consists of 19 acres.

Page 50 states that the Pueblo of Laguna must agree not to allow commercial/industrial facilities to be built on any portion of the Anaconda leases disturbed by mining. Does this statement mean that Anaconda is proposing that the buildings to be left on lease #4 should not be used for commercial/industrial facilities? If this is correct, what uses does Anaconda feel is acceptable for these structures?

# RESPONSE #30

Our comment on habitability relates to the accomplishment of the objectives of the reclamation plan. One of these objectives is to mitigate health and safety hazards. Although Anaconda will clean up the buildings to be left intact on lease #4 to meet radiological standards as specified on Page 36 of the Mine Reclamation Plan, this objective leaves the responsibility of specific uses that may be made of the reclaimed area to the Pueblo of Laguna. Anaconda is required to leave intact those buildings on lease #4. These buildings are not located where the geologic integrity of the land has been disturbed, as opposed to the pits and dumps areas.

Anaconda recommends that in order to mitigate health and safety hazards related to habitation in the area of the mine site, no homes or commercial/industrial facilities be built on any portion of the Anaconda lease disturbed by mining; that is, where the geologic integrity of the ground has been disturbed, such as pits and dumps.

Additionally, the entire area of the mine site is known to have naturally occurring radioactive mineralization. If a building were to be constructed on a site where radioactive mineralization is elevated, whether or not the geologic integrity has been disburbed, Radon levels could build up within the building to a point that could constitute a health hazard. Accordingly, Anaconda is recommending against such activities.